# TROPICAL FOREST NOTES

INSTITUTE OF TROPICAL FORESTRY
RIO PIEDRAS, PUERTO RICO *



No. 11

## THE BOW SAW FOR CUTTING TROPICAL WOODS

George H. Englerth
Ernesto Goytía Olmedo

In experimental work in Puerto Rico on the treatment of fence posts, involving the cutting of more than 12,000 posts of diameter from two to eight inches, the most efficient tool proved to be the bow saw. With proper care the bow saw is also a good tool to cut posts and other small, round timber, and to prune roadside and other trees. Developed in Sweden the bow saw is used to cut pulpwood in the northeastern United States and in Canada. It is designed to cut trees up to ten inches in diameter. Trees larger than this are best cut with a cross-cut saw or a power chain saw. Local tests included 60 species with specific gravities from 0.3 to 1.0. The bow saw worked satisfactorily throughout this range of density.

The three common types of bow-saw frames are all made of light tubular steel. They are shown in figures 1, 2, and 3. All three saws have a tension lever, and come in lengths from 30 to 45 inches. One type, not shown, does not have this tension lever. The frame shown in figure 1 is the type found best adapted to conditions in Puerto Rico, and the 30- to 36-inch length was the best. The adjustable-frame saw in figure 2 can be adjusted to take blades of different lengths, but it is heavier than the non-adjustable frame. The frame in figure 3 has a handle extending below the saw blade (the adjustable frame may also have such a handle). This handle catches on vines and limbs, and since the frame itself serves as a handle, we found this handle unnecessary.

The saw blades likewise come in three patterns, as shown in figure 4. The blade with all cutting teeth and no rakers was unsatisfactory in cutting tropical hardwoods, but it is suitable for cutting bamboo. The blades with either two or four cutting teeth to one raker cut satisfactorily in most woods, and no appreciable difference in cutting was noted between the two types. Some companies make blades with hardened steel teeth, and these last three times as long without resharpening than blades with unhardened teeth. We found that it is cheaper and easier to use these hardened steel blades till dull, and then replace them rather than sharpening the saw blades. Very few people know how to sharpen a saw blade correctly, and this hardened steel blade overcomes this difficulty. Also this blade is three-fourths of an inch wide as compared to one inch or wider for the other types of blades. The narrower blade is less likely to bind in the cut.

The knack of using a bow saw is quickly acquired. The bow frame is kept

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* Operated in cooperation with the University of Puerto Rico.

parallel to the saw blade when sawing vertically or horizontally. If the blade tends to crook away from a straight cut when the frame is held correctly, it may be that the teeth are unevenly set or the frame has lost its tension. Twisting of the blade by letting the frame drop after the blade is buried full width in the cut should be avoided. When the saw is not in use for several days the blades should be loosened in order to preserve the tension in the frame.

Makers of Bow Saws

Champion Saw Company, Ltd.
764 St. Vallier St., West
Quebec, Canada

Edsbyns Industri Aktiebolog
Svenska Handelsbanden
Stockholm, Sweden

D. D. Terrill Saw Co., Inc.
Bangor, Maine

Gensco Tools
1830 N. Kstner Avenue
Chicago 39, Illinois

Sandvik Steel Company, Inc.
1702 Nevins Road
Fair Lawn, New Jersey

Makers of Saw Blades

Simond Canada Saw Co.
St. Remi St.
Montreal, Canada

Simonds Saw and Steel Co.
Fitchburg, Mass.

February 15, 1962

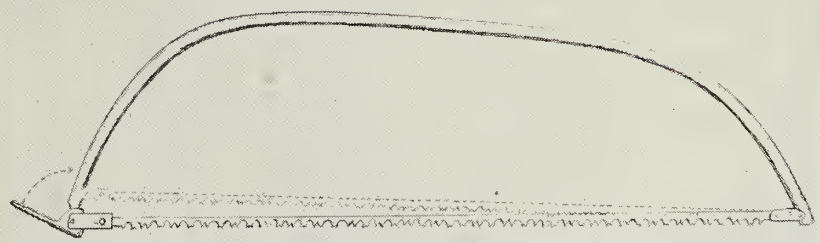

FIGURE 1.- BOW SAW WITH TENSION LEVER

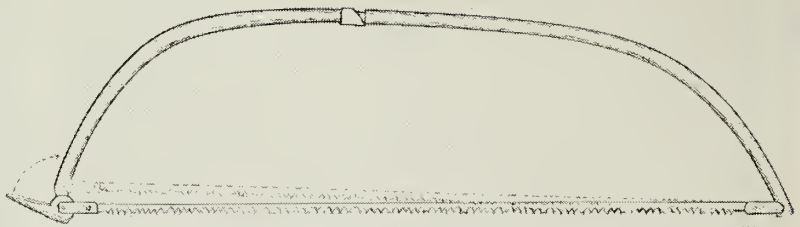

FIGURE 2.- BOW SAW WITH TENSION LEVER AND ADJUSTABLE FRAME

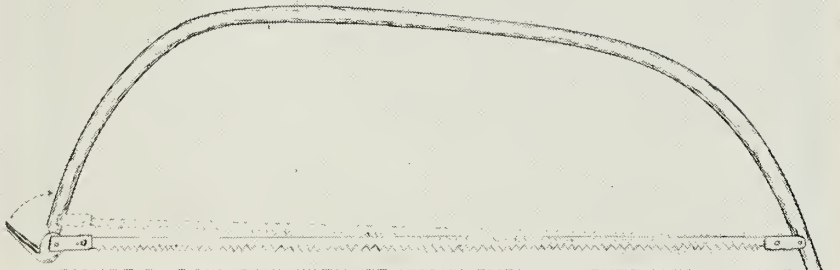

FIGURE 3.- BOW SAW WITH TENSION LEVER AND EXTENDED HANDLE

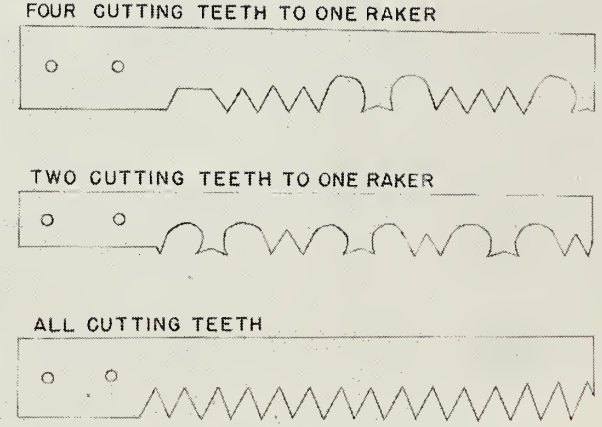


FIGURE 4.- TYPES OF BOW SAW BLADES